

**REMARKS**

Claims 51-56 were pending in this application. The Applicants, through the instant amendment, have introduced (new) claim 57. The Examiner made the following rejections:

- (1) The Examiner rejects claims 51 & 53-56 under 35 U.S.C. 102(b).
- (2) The Examiner rejects claim 52 under 35 U.S.C. 103(a).

The Applicants believe the present amendments, and the following remarks, traverse the Examiner's rejections. These remarks are presented in the same order as they appear above.

**(1) Grorich Cannot Anticipate**

Responding to the Applicants' prior argument that U.S. patent 3,973,781 to Grorich does not anticipate the invention as claimed, the Examiner states:

"The argument does not make any sense. The top surfaces of the protrusions in Grorich make contact with the second surface the same way the applicant claims his protrusions make contact with a second surface. It is not even clear how the face seal could make contact with the second surface without the top surface of the protrusions making contact with the second surface.

Applicant argues that the facets/protrusions disclosed by Grorich fail to extend from a contact surface. However, applicant need only look at the passage he cited to see that the protrusions in Grorich do extend from a contact surface. See "each frustopyramid [i.e. protrusion] which faces the seal edge is substantially normal to [i.e. extends from] the contact surface" in col. 3, lines 17-20."<sup>1</sup>

As the Examiner suggested, the Applicants carefully reviewed col. 3, lines 17-20, of the '781 patent to Grorich, in view of all drawings in that same patent. The Applicants respectfully submit that Grorich does not disclose *any* protrusions which extend outward from the contact surface of his seal. Specifically, the facets 2 formed by the multiplicity

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<sup>1</sup> Office Action mailed January 30, 2006, p. 3.

of oblique frusto- pyramids in Grorich completely define the contact surface of the seal. This proposition is explicitly supported by Grorich both in the specification and drawings of the '781 patent.<sup>2</sup>

While the Examiner states that each frustopyramid which faces the seal edge is substantially normal to [i.e. extends from] the contact surface, these frustopyramids actually extend *inward* from the contact surface 2.<sup>3</sup> In contrast, the protrusions 41 recited in the claimed embodiments of the present invention extend *outward* from the contact surface. That is to say, these protrusions are partially compressed when contacted with a substantially flat second surface such that these protrusions become part (but do not exclusively define) the area of the contact surface; unlike the tops of the frustopyramids 2 in Grorich.

It is not intended that the present invention be limited to any specific mechanism, nor is an understanding of any specific mechanism required to practice the invention as claimed. However, while Grorich describes a method of distributing lubricant through a network of interconnected canals extending inward from the contact surface; the claimed embodiments of the present invention describe a series of protrusions, extending *outward* from the contact surface, that form high pressure contact regions to prevent particulate agglomeration.<sup>4</sup> If the protrusions described by the claimed embodiment of the present invention were to cover the entire seal contact region, as the depressions described by Grorich, the seal would be incompetent.

Given the outward protruding protrusions of the claimed embodiments of the present invention are elements in all the pending claims; Grorich, as a matter of law, cannot anticipate as it does not disclose each and every element of the invention as claimed. The Applicants, therefore respectfully request the Examiner withdraws the pending rejection under 35 U.S.C. 102(b).

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<sup>2</sup> See, Col. 3, ll. 6-19 and Fig. 3.

<sup>3</sup> "The small rhombic facets are staggered in four stages regularly and symmetrically with respect to an axial plane through the line x. Each single facet is a flat, oblique frustopyramid with a height s and a **flat sliding surface 2** which is the rhombic top surface of a frustopyramid." Col. 11, ll. 38 - 43. (emphasis added)

<sup>4</sup> The Applicants draw the Examiner's attention to (New) claim 57. This claim recites a method for making a face seal wherein "protrusions of said contact surface of said face seal to produce a seal comprising a region of intensified contact interior to the outer peripheral edge that redirects incoming dirt and debris away from the region of intensified contact." The Examiner is reminded that, in a method claim, intended use is relevant to the determination of patentability. Grorich and McNickle are completely silent on the feature of intensified contact as described in the Applicants' pending method claim.

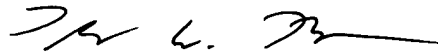
**(2) Claim 52 Is Not Obvious**

The Applicants maintain U.S. patent 5,558,341 to McNickle does not provide the motivation to combine the teaching in Grorich with the teachings set out in Grorich. Moreover, the "pocket" 66 in McNickle is actually is an open ended groove completely dissimilar from the recess confined within the protrusion as recited in the rejected claim of the present invention. In addition, the Examiner admits that ". . . Grorich does not expressly disclose the protrusions having recesses."<sup>5</sup> Even if McNickle is improperly combined with Grorich, the combined art fails to recapitulate the invention as claimed. The Applicants, therefore respectfully request the Examiner withdraws the pending rejection under 35 U.S.C. 103(a).

**CONCLUSION**

The Applicants believe that the arguments set forth above traverse the Examiner's rejections and, therefore, respectfully request all the pending rejections be withdrawn for the reasons set above and the pending claims be passed to allowance. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, the Applicants encourage the Examiner to call the undersigned collect at 617.984.0616.

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<sup>5</sup> Office Action mailed January 30, 2006, p. 3.